

Exploring the Impact of Cognitive Dissonance on Women's Intentions to Pursue Breast Cancer Screening

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Purpose: The study aims to investigate the factors that predominantly affect women's intentions to get breast cancer screening tests. The aim is to assess the perceptions of breast cancer screening among women aged over 40 years of age, following the Cognitive Dissonance Theory in health marketing communications. It examines women's two most favorable and two least favorable perceptions concerning their readiness to engage in breast cancer screening and analyzes their behavioral intentions. The results offer significant insights into public perceptions of breast cancer screening and their impact on societal attitudes.

Design/methodology/approach: A questionnaire-based survey involving 267 women revealed that their willingness to participate in breast cancer screening tests is affected by the principles of Cognitive Dissonance Theory.

Findings: Emotional reactions and perceived wisdom are the primary determinants affecting women's willingness to engage in breast cancer screening.

Practical implications: The results enhance the personalization of breast cancer advertising to increase the uptake of breast cancer screening.

Originality/value: Despite the importance of breast cancer screening as a vital public health concern, there is limited research examining the primary factors that influence positive attitudes toward and compliance with breast cancer screening tests.

Keywords: health marketing communications; emotional response; wisdom-based processing; consumer behavior.

Paper type: Research paper

1. Introduction

Breast cancer is the most common cause of death among women throughout the world. There is no absolute way to prevent this cancer, so screening for early diagnosis is essential (Bozorgi et al., 2018). A recent study by Duffy et al. (2021) found that serial participants, women who had participated in the most recent screening examination before their diagnosis, have been shown to have an estimated 49% lower risk of breast cancer mortality than serial non-participants. Duffy et al. (2018) found that physician endorsement, pre-screening and personalized reminders were among the most effective interventions to persuade women to get breast cancer screening tests.

Publications have recommended communication strategies to address breast cancer awareness needs for young women, too. Educating young women about their breast cancer risks, symptoms, and self-detection has the potential to increase risk reduction behaviors across the age trajectory, increase earlier detection, and promote overall health and well-being (Bottorff et al., 2014). Still, scholars and healthcare professionals agree that there is a growing need to understand what interventions are most effective at increasing the breast screening uptake (Acharya et al., 2021). Visual media, including photographs, videos, pictograms, and infographics, are commonly used and recognized as highly effective tools in health communication campaigns and initiatives (Barros et al., 2014; Houts et al., 2006). As such, images are essential in social education as they help individuals develop the skills to learn and critically analyze the world around them. This not only empowers people to protect their well-being but also encourages them to take on the responsibility of safeguarding the health and safety of the wider community they are part of (Menchetelli, 2023).

Studies have demonstrated that the use of visual imagery can improve adherence to health instructions, especially for patients with lower literacy levels (Houts et al., 2006). Numerous examples demonstrate the successful use of graphic content to encourage changes in health behavior and raise awareness (King, 2016). Incorporating images into health risk messages not only affects the understanding and retention of information but also depends on factors such as

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3 demographic differences and the level of cognitive effort required by the viewer (Manno et al.,
4 2015). Current research assessing promotional materials in print media primarily focuses on
5 the textual elements of the images (Jensen, 2011). These studies offer general and vague
6 recommendations for improving visual components, often lacking actionable insights based on
7 empirical evidence (King, 2014).

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9 However, the messaging and communication strategy are equally important and potentially
10 influence whether a woman will decide to schedule a breast cancer screening test. In particular,
11 this study makes a significant contribution to understanding the psychological factors that
12 influence women's decisions about breast cancer screening. By employing the Cognitive
13 Dissonance Theory, the research highlights the crucial role of emotional reactions and
14 perceived wisdom in shaping screening intentions. This focus on the emotional and cognitive
15 aspects of decision-making offers a fresh perspective on breast cancer screening promotion,
16 moving beyond traditional informational approaches. The identification of these key drivers
17 provides valuable insights for tailoring health communication strategies to effectively engage
18 women and encourage their participation in screening programs.
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21 **2. Conceptual framework**

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23 Festinger's (1957) Cognitive Dissonance Theory (CDT) is a seminal theory in social
24 psychology. CDT posits that when an individual possesses two or more interrelated yet
25 contradictory pieces of knowledge, it engenders a state of dissonance or discomfort (Harmon-
26 Jones and Mills, 2019). Festinger suggests that the discomfort of dissonance motivates
27 individuals to engage in "psychological work" to resolve the conflict (Harmon-Jones and
28 Harmon-Jones, 2012) and he asserts that altering behavior can be challenging due to potential
29 pain, existing satisfaction, or mere inconvenience. Decision-making typically experiences
30 more dissonance when the alternatives exhibit similar levels of attractiveness, especially when
31 each option possesses distinct characteristics. Dissonance resulting from a decision can be
32 mitigated by perceiving the chosen option as more appealing or by considering the rejected
33 option as less desirable (McGrath, 2017).

34
35 In the realm of breast cancer screening where numerous studies have investigated the factors
36 influencing women's intentions to engage in screening, we refer to the specific relationship of
37 attitude modification as the spreading of alternatives (Harmon-Jones and Harmon-Jones,
38 2012). Self-efficacy, outcome expectations, and goal setting have been recently identified as
39 critical mediators of screening behavior in research (Lu et al., 2024). Studies demonstrate that
40 cognitive dissonance can profoundly influence health-related decision-making. Cooper and
41 Feldman (2019) demonstrated that interventions grounded in CDT may assist individuals in
42 adhering to health regimens, such as diet and exercise, rather than inducing feelings of guilt for
43 noncompliance. This suggests that we can use similar mechanisms to encourage women to
44 participate in breast cancer screening. To the authors' knowledge, no previous research has
45 investigated women's intentions to undergo breast screening tests using this theory.
46 Consequently, we utilized Cognitive Dissonance Theory in this health marketing context to
47 investigate how dissonance-based strategies can promote modifications in women's unhealthy
48 behaviors.
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51 Our goal was to determine whether women are influenced by specific factors. Utilizing the
52 scale for cognitive dissonance developed by Sweeney et al. (2000), we employed the proposed
53 dimensions of cognitive dissonance: Emotional Reaction, the Wisdom of Screening, and
54 Concern over Deal.
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57 *2.1 Emotional Reaction*

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3 Sweeney et al. (2000, p. 380) define emotional reaction as a person's psychological discomfort
4 following a purchase decision. Anderson (2003) suggested that decision avoidance occurs
5 when individuals seek to avoid the responsibility of deciding by delaying or choosing options
6 they perceive to be non -decisions. In both cases, the author argues there is a combination of a
7 few rational reasons for avoidance and a more complex and rationally questionable role played
8 by emotions such as regret and fear. There is a rich literature about how emotionally arousing
9 persuasive messages are better recalled by individuals and identified as more effective than
10 less emotional messages, both in the field of health communication (Biener, 2000; Pechmann
11 and Reibling, 2006) and in consumer marketing (Escalas et al., 2004). Dunlop et al.'s (2008)
12 study found that messages that provoke an emotional response are likely to directly influence
13 the individual and encourage discussion about the message, which can initiate a social sharing
14 response. The authors conclude that, in health communication, these discussions might
15 contribute to the individuals' motivation to change their behavior. Lastly, Dunlop et al. (2008)
16 believe that the best way to improve health-related advertisements that aim at persuading
17 people to change their behavior is to evaluate the effectiveness of said advertisements by asking
18 viewers what their emotions are about the message, the images, the plot of characters, and
19 themselves.
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24 2.2 Wisdom of Screening

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26 Sweeney et al. (2000, p. 380) argue that the wisdom of purchase is "*a person's recognition*
27 *after the purchase has been made that they may not have needed the product or may not have*
28 *selected the appropriate one.*" In this article, we refer to this dimension as the wisdom of
29 screening since the research deals with breast cancer screening intentions. The consumer
30 behavior field underinvests in wisdom, likely due to its perceived intractable nature (Luchs and
31 Mick, 2018). Yet in psychology, wisdom research has accelerated during the last 20 years
32 (Baltes and Staudinger, 2000; Ferrari and Weststrate, 2013; Grossmann, 2017; Schwartz and
33 Sharpe, 2010; Sternberg and Jordan, 2005). A concise definition of wisdom comes from Baltes
34 and Smith (2008), who argue that "*[it] is the ideal integration of knowledge and action, mind*
35 *and virtue*" (Baltes and Smith, p. 56).
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39 2.3 Concern over Deal

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41 Sweeney et al. (2000, p. 380) believe that concern over a deal is "*a person's recognition after*
42 *the purchase has been made that they may have been influenced against their own beliefs by*
43 *sales staff.*" Again, in this article, concern over the deal is associated with women's concern
44 that they had been influenced to get breast cancer screening tests by someone else (i.e., a
45 healthcare professional, family, friends, etc.).
46

47 Based on the aforementioned concepts we have developed the following three research
48 questions. In short, we aim to investigate how emotional reaction, screening wisdom, and
49 concern over deals influence women's behavioral intentions towards breast cancer screening.

50 RQ1: How does emotional reaction influence women's behavioral intentions toward breast
51 cancer screening?

52 RQ2. How does screening wisdom impact women's behavioral intentions toward breast cancer
53 screening?

54 RQ3: How does concern over the deal impact women's behavioral intentions towards breast
55 cancer screening?
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58 3. Method

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The research team administered a questionnaire with 29 questions to women aged 40 and older (Appendix). Three gynecologists specializing in breast examinations, a mammography-specialized radiologic technologist, and three academic experts in breast cancer first utilized the primary questionnaire in a pilot study. Considering their observations, we developed the final version of the questionnaire following the Cognitive Dissonance Theory (Sweeny et al., 2000). One section of the survey, which included ten questions based on the willingness to get vaccinated scale from Shapiro et al. (2016), aims to assess the participant's perception of their willingness to undergo breast cancer screening. This study adjusts the scale to reflect the participants' willingness to undergo breast cancer screening. We used three composite measures to investigate Emotional Reaction (12 items), Wisdom Assessment (4 items), and Concern Over Deal (3 items). Before distributing the final questionnaire to Greek speakers, we translated it from English to Greek and vice versa. The participants' two most favorable and two least favorable perceptions regarding their willingness to participate in breast cancer screening tests were subsequently identified. Therefore, the research is focused on analyzing women's behavioral intentions using the CDT through multiple regression modelling.

3.1 Sampling

The study initially included a total of 289 women. Following the data-cleaning process, responses from 267 participants were gathered over three months in Greece. We excluded twenty-two responses from the analysis due to missing information. Most participants were married women (69%), and 63% had children. A substantial percentage of the participants (60%) fall within the age range of 40-50 years, although 10.4% of them are aged 51-60 years, and 29.6% are over the age of 61 years. The age distribution of the sample is considered optimum since there is evidence that 84% of breast cancer cases are detected in women who are 50 years old or older (Siegel et al., 2024).

3.2 Data analysis

The study's statistical validity was verified using IBM SPSS Statistics version 29.0, and the multicollinearity test yielded acceptable VIF values. Furthermore, residual analyses validated the assumptions of homoscedasticity. For testing the model, the residual plots show some heteroscedasticity, a generally normal distribution of errors, and no major violations of linear regression assumptions. These can be seen for the phrase "*Breast cancer screening is important for my health*" (VS1) in Table 1, Figure 1, and Figure 2 below.

Variable	VIF
0 const	6.24
1 Emotional Reaction	3.62
2 Wisdom	1.75
3 Concern	2.65

Table 1. VIF Values for Breast screenings are important for my health (VS1)

Source: Authors' own work.

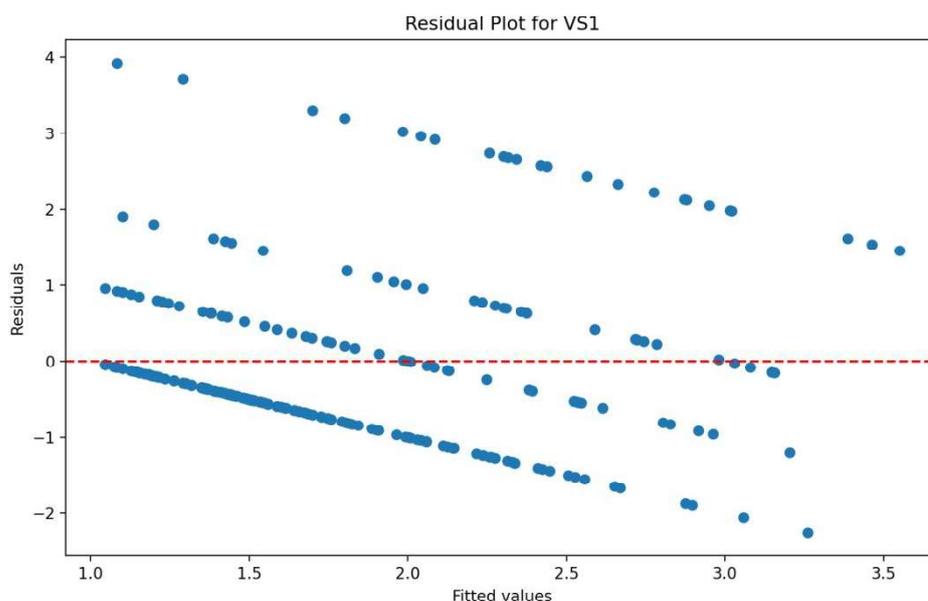


Figure 1. Residual plot for VS1

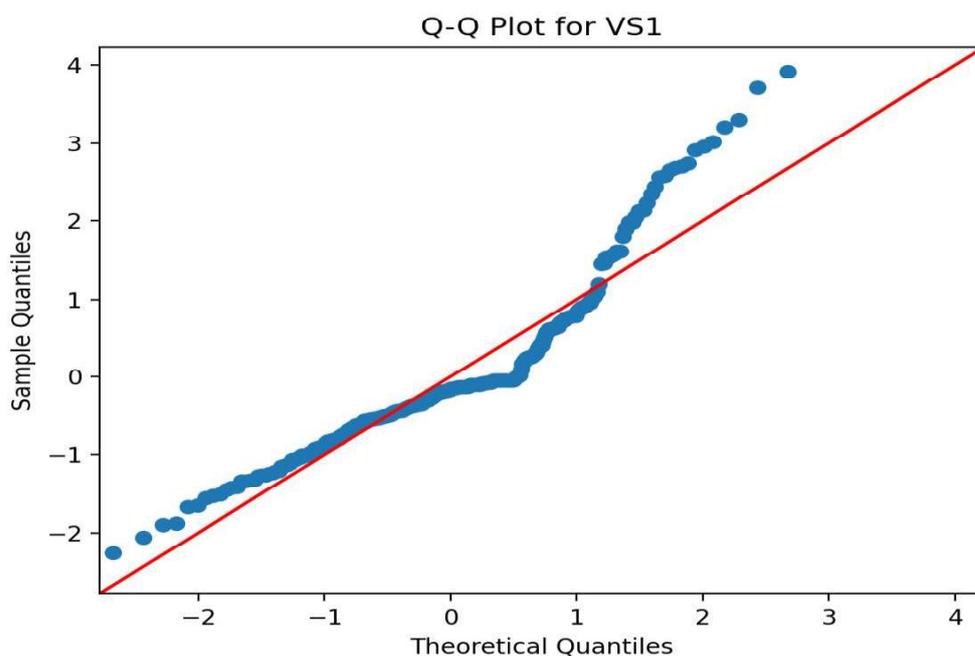


Figure 2. Q-Q plot for VS1

4. Results

To provide a concise summary of the respondent's perspectives on the efficacy and significance of breast cancer screenings, the average scores for each question are calculated. This allows for the identification of characteristics that elicit either positive or apprehensive responses. The results illustrate that the average scores for each question are close to one, indicating that respondents typically strongly agree with the claims regarding the significance and efficacy of breast cancer screenings. The respondents' attitude toward breast cancer screenings seems to

be favorable. Consequently, there is a clear indication of a strong consensus on the significance and efficacy of breast cancer screenings. This is evident from the high scores received for phrases such as *"Breast cancer screening is important for my health"* (VS1) and *"Breast cancer screening is effective"* (VS2), with respondents strongly agreeing with both claims. This indicates a strong degree of consciousness and recognition of the advantages of breast cancer screenings for individual well-being. Women gave scores around one when asked about the importance of screening for population health and the reliability of information from specialized programs. For example, factors *"I usually do what my doctor or health care provider tells me to do about breast cancer screening"* (VS8) and *"I don't need breast cancer screening for diagnoses that aren't common anymore"* (VS10) got scores around one. These findings indicate that participants recognized the benefits of community screening and trusted the information offered by health programs, although their acceptance rate did not align with women's preferences.

ID	Willingness Scale	Average Ratings
VS1	Breast cancer screening is important for my health	1.78
VS2	Breast cancer screening is effective	1.34
VS3	Having my breast cancer screening is important for the health of others in my community	1
VS4	All breast cancer screenings offered by the government program in my community are beneficial	1.12
VS5	Breast cancer screening technology carries more risks than older breast screenings technology	1.1
VS6	The information I receive about breast cancer screening from the special program is reliable and trustworthy	1
VS7	Getting breast cancer screening is a good way to protect myself from cancer	1
VS8	Generally, I do what my doctor or health care provider recommends about breast cancer screening	1
VS9	I am concerned about serious adverse effects of breast cancer screenings	1
VS10	I do not need breast cancer screening for diagnosis that are not common anymore	1

Table 2. Summarized Results of the Willingness to get Breast Cancer Screening Scale

Source: Authors' own work based on Shapiro et al., 2016.

Furthermore, while there is a consensus on the advantages, there are still apprehensions regarding the potential hazards linked to breast cancer screening technologies. The average rating for the factor *"Breast cancer screening technology carries more risks than older breast screening technology"* (VS5) is marginally higher, indicating a moderate level of agreement or neutrality. This implies some reluctance to pursue technical advances in this field. The respondents exhibit a high level of compliance with medical advice about breast cancer screening, as seen by the low average rating for the question of adherence to healthcare professional recommendations. Overall, the prevailing sentiment is optimistic, as the majority of participants convey a strong agreement regarding the importance and effectiveness of breast cancer screening. Nonetheless, a certain fear persists regarding the possible dangers of contemporary technology (Figure 3). This underscores the need for ongoing education and

communication to tackle these issues and strengthen the advantages of breast cancer screening. The evidence ultimately demonstrates significant support and recognition of the necessity for breast cancer screening (Figure 3).

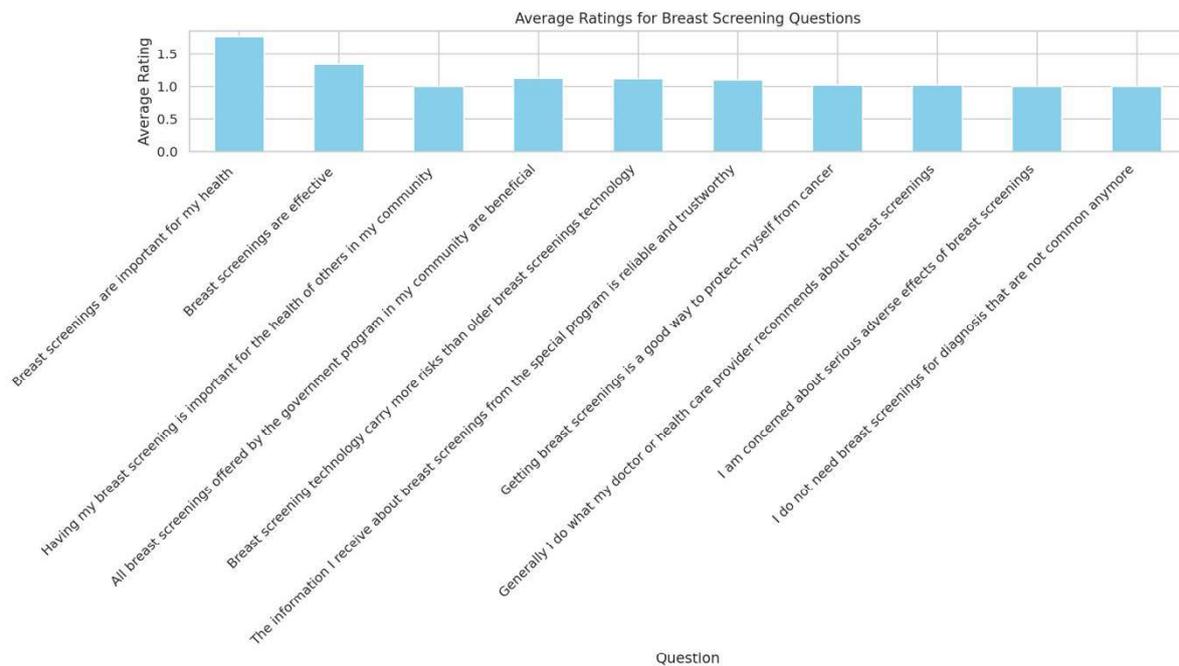


Figure 3. Average answers over the Willingness to Get Breast Cancer Screening Scale

A multiple regression analysis was conducted to observe how these three factors affect four different parts of message reception and processing to find out how emotional, wisdom-based, and concern-driven responses are connected in health marketing communications. Table 3 presents the model summary for each dimension. The study shows that for factor “*Breast Cancer Screening Is Important for my Health*” (VS1), the emotional reaction coefficient is positive and statistically significant ($p < 0.05$). This implies that a stronger emotional response following a screening correlates with a stronger belief in the health benefits of screening. The study finds a positive and significant coefficient for the wisdom of screening. This means that thinking of screening as wise makes it seem a more important task. Despite the positive coefficient of Concern over Deal, it is not statistically significant ($p > 0.05$), suggesting a minimal or negligible effect (Table 4).

	VS1	VS2	VS8	VS10
R-squared	0.257	0.207	0.035	0.014
Adj. R-squared	0.249	0.197	0.024	0.003
F-statistic	30.309	22.804	3.225	1.279
Prob (F-statistic)	7.462e-17	0.000	0.023	0.281
Durbin-Watson	2.307	2.275	2.055	2.026

Table 3. Model Summary

Source: Authors' own work.

	B	Std. Error	t	Sig.	95.0% Confidence Interval for B	
					Lower Bound	Upper Bound
(Constant)	0.3672	0.164	2.245	0.026	0.045	0.689
Emotional_Reaction	0.3246	0.127	2.562	0.011	0.075	0.574
Wisdom_of_Screening	0.1445	0.070	2.057	0.041	0.006	0.283
Concern_over_Deal	0.2106	0.108	1.955	0.052	-0.002	0.423

Table 4. Regression Results for Breast screenings are important for my health (VS1)

Source: Authors' own work.

Regarding the factor "Breast cancer screening is effective" (VS2), the results show that breast cancer screening makes people feel good, which could make them think that the screenings are more effective. Also, the wisdom that comes with screenings has a positive and significant coefficient, which supports the idea that screenings work when they are seen as smart. The coefficient for Concern over Deal is positive yet not significant, indicating a minimal impact on perceived effectiveness (Table 5).

Table 5. Regression Results for "Breast cancer screening is effective"(VS2)

	B	Std. Error	t	Sig.	95.0% Confidence Interval for B	
					Lower Bound	Upper Bound
(Constant)	0.4381	0.126	3.491	0.001	0.191	0.685
Emotional_Reaction	0.1167	0.097	1.201	0.231	-0.075	0.308
Wisdom_of_Screening	0.0998	0.054	1.852	0.065	-0.006	0.206
Concern_over_Deal	0.2400	0.083	2.902	0.004	0.077	0.403

Table 5. Regression Results for "Breast cancer screening is effective" (VS2)

Source: Authors' own work.

Emotional responses post-screening influence adherence to medical advice, as shown in Table 6. The Wisdom of Screening reaction has a positive and significant coefficient, which means that people who think screenings are smart are more likely to follow medical advice. Although the coefficient of concern over the deal is positive and not statistically significant, it demonstrates a negligible effect on adherence to the doctor's recommendations.

	B	Std. Error	t	Sig.	95.0% Confidence Interval for
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					B	
					Lower Bound	Upper Bound
(Constant)	0.9410	0.041	22.720	0.000	0.859	1.023
Emotional_Reaction	-0.0159	0.032	-0.496	0.620	-0.079	0.047
Wisdom_of_Screening	0.0441	0.018	2.479	0.014	0.009	0.079
Concern_over_Deal	0.0144	0.027	0.529	0.597	-0.039	0.068

Table 6. Regression Results for “Generally, I do what my doctor or health care provider recommends about breast screenings” (VS8)

Source: Authors' own work.

Screening for uncommon diagnoses (VS10) is unnecessary, as the examination of its impact on emotional reactions reveals a positive coefficient that is not statistically significant, indicating a weak/no correlation. The Wisdom of Screening factor is negative and not significant, indicating that the perception of wisdom does not substantially affect this belief. Concerns about the Deal factor are similar; the factor is negative and only slightly significant ($p < 0.05$), which suggests that worries about the deal may slightly lessen the belief that screening for rare diagnoses is necessary (Table 7).

					95.0% Confidence Interval for B	
	B	Std. Error	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.0008	0.009	106.731	0.000	0.982	1.019
Emotional_Reaction	0.0114	0.007	1.566	0.119	-0.003	0.026
Wisdom_of_Screening	-0.0005	0.004	-0.120	0.905	-0.008	0.007
Concern_over_Deal	-0.0118	0.006	-1.907	0.058	-0.024	0.000

Table 7. Regression Results for “I do not need breast cancer screening for diagnoses that are not common anymore” (VS10)

Source: Authors' own work.

By analyzing the coefficients and significance levels in the regression summaries, we identified which dimensions significantly influence each of the four behavioral intention variables. The analysis indicates that the model accounted for 25.8% of the variance ($R^2 = 0.258$, $p < 0.001$) in understanding the significance of “Breast cancer screening is important for my health” (VS1). The Emotional Response dimension was identified as the most robust predictor ($\beta = 0.325$, $p = 0.011$), followed by the Wisdom dimension, which exhibited a significant effect ($\beta = 0.145$, $p = 0.041$), and the Concern dimension, which neared significance ($\beta = 0.211$, $p = 0.052$). Furthermore, “The efficacy of breast cancer screening” (VS2) is evidenced by an explained variance of 20.7% ($R^2 = 0.207$, $p < 0.001$), with an F-statistic of 22.80, indicating a

robust model fit, while consistently aligning with the predictor patterns of the dimension “Breast cancer screening is important for my health” (VS1). The less favorable indicators, specifically regarding adherence to “Breast cancer screening recommendations from my doctor or healthcare provider” (VS8) and “The necessity of outdated diagnostic screenings” (VS10), exhibit limited explanatory power ($R^2 = 0.036$ and 0.014 , respectively). This suggests the existence of unmeasured variables influencing long-term effects, indicating a potential temporal decay in the measured outcomes. The analysis reveals that both Emotional Reaction and Wisdom of Screening significantly impact women’s intentions and beliefs about breast cancer screening across most variables. Concern over Deal has a less consistent and generally weaker influence. Emotional reactions and perceived wisdom are key drivers in shaping positive attitudes and adherence to breast cancer screening recommendations. The less favorable indicators, specifically regarding adherence to “Breast cancer screening recommendations from my doctor or healthcare provider” (VS8) and “The necessity of outdated diagnostic screenings” (VS10), exhibit limited explanatory power ($R^2 = 0.036$ and 0.014 , respectively).

5. Discussion and conclusions

The study reveals that emotional reactions and perceived wisdom significantly influence women's intentions to pursue breast cancer screening. Specifically, women who report stronger emotional reactions to breast cancer information and those who perceive themselves as having greater wisdom about health-related matters are more likely to express positive intentions toward screening.

In addition, the findings indicate that women may experience cognitive dissonance when their actions (i.e., not getting screened) contradict their beliefs about the importance of screening. This discomfort may lead them to either adjust their beliefs about the importance of screening or take action in alignment with their existing beliefs (Pasick & Burke, 2008). Addressing the psychological barriers that hinder women from aligning their actions with their health views, our study presents a significant challenge that could aid younger women in averting a major cause of mortality (Šerić et al., 2024). Public health campaigns aiming to boost breast cancer screening rates should prioritize emotional engagement, as the key finding highlights that emotional responses are a primary motivator of screening intentions. This research offers valuable new insights for early breast cancer detection and prevention efforts by deepening our understanding of the psychological factors influencing women's decisions to participate in screening.

Theoretical implications

This study expands the application of Cognitive Dissonance Theory (CDT) to breast cancer screening decisions. Traditionally focused on the discomfort from conflicting cognitions, CDT is shown here to integrate emotional reactions and perceived wisdom in shaping health-related intentions. The model highlights how these elements interact to influence complex health behaviors, emphasizing the importance of emotional responses and wisdom-based processing in the immediate reception of messages. This supports dual-process theories of persuasion and deepens our understanding of how different processing routes interact. Over time, the diminishing explanatory power of specific factors suggests that initial emotional and wisdom-based responses evolve into new cognitive structures. Consequently, effective integrated marketing communications (IMC) should engage multiple processing routes simultaneously, leveraging both emotional and cognitive elements to maximize the impact of CDT.

Practical implications

The study's findings offer practical guidance for public health practitioners and policymakers. Emotional engagement should be a key focus, as emotional reactions consistently emerge as the strongest predictor of screening intentions. Breast cancer screening campaigns should prioritize relatable emotional appeals that encourage women to take action. By incorporating wisdom-based messaging alongside emotional elements, health promoters can develop personalized campaigns that increase screening uptake and support early detection. Additionally, public health messaging must balance emotional engagement with an evidence-based approach. Campaign managers should aim for immediate impact while recognizing the limitations of long-term outcomes. Given the tendency for government institutions to prioritize short-term, reliable metrics (Theofilou & Topić, 2025), developing measures for long-term effects may become necessary. By addressing both emotional and wisdom-based factors, health campaigns can more effectively motivate women to participate in screening programs and drive meaningful societal change..

Limitations and future research

Our findings align with existing research on health behavior change, highlighting the role of emotions and cognitive appraisals in shaping health-related decisions (Hoffjann, 2024). This study specifically demonstrates the influence of emotional reactions and perceived wisdom on breast cancer screening intentions. However, our methodology has limitations, including potential self-report bias due to social desirability or recall issues. Future research could address this by using objective measures, such as medical records. Additionally, our study did not fully explore the cultural and socioeconomic factors that influence screening decisions, such as health beliefs, income, education, and healthcare access. Future studies should examine these factors to develop more culturally sensitive and equitable interventions.

This analysis underscores the importance of emotional reactions in immediate responses but also highlights the need for further research on long-term outcomes. Future studies should explore the types of emotional responses triggered by breast cancer screening ads and their influence on risk perception and behavior change. Additionally, examining the effects of celebrity versus medical expert endorsements on emotional reactions and screening intentions, as well as conducting longitudinal studies to understand how these factors evolve over time, could provide valuable insights.

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APPENDIX

Question ID	Item	Reference
W1	I wonder if I really need this breast screening test	Sweeney et al., 2000
W2	I wonder whether I should have had this breast screening test at all	Sweeney et al., 2000
W3	I wonder if I have made the right choice	Sweeney et al., 2000
W4	I wonder if I have done the right thing in performing this breast screening test	Sweeney et al., 2000
E1	After I had the breast screening test: I was in despair	Sweeney et al., 2000
E2	After I had the breast screening test: I resented it	Sweeney et al., 2000
E3	After I had the breast screening test: I felt disappointed with myself I felt scared	Sweeney et al., 2000
E4	After I had the breast screening test: I felt hollow	Sweeney et al., 2000
E5	After I had the breast screening test: I felt angry	Sweeney et al., 2000
E6	After I had the breast screening test: I felt uneasy	Sweeney et al., 2000
E7	After I had the breast screening test: I felt I'd let myself down I felt annoyed	Sweeney et al., 2000
E8	After I had the breast screening test: I felt frustrated	Sweeney et al., 2000
E9	After I had the breast screening test: I was in pain	Sweeney et al., 2000
E10	After I had the breast screening test: I felt depressed	Sweeney et al., 2000
E11	After I had the breast screening test: I felt furious with myself I felt sick	Sweeney et al., 2000
E12	After I had the breast screening test: I was in agony	Sweeney et al., 2000

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4	C1	After I performed this breast screening test I wondered if I had been fooled	Sweeney et al., 2000
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6	C2	After I performed this breast screening test I wondered if they had spun me a line	Sweeney et al., 2000
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8	C3	After I performed this breast screening test, I wondered whether there was something wrong with the deal I got	Sweeney et al., 2000
9	VS1	Breast screenings are important for my health	Shapiro et al., 2016
10	VS2	Breast screenings are effective	Shapiro et al., 2016
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12	VS3	Having my breast screening is important for the health of others in my community	Shapiro et al., 2016
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14	VS4	All breast screenings offered by the government program in my community are beneficial	Shapiro et al., 2016
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16	VS5	Breast screening technology carry more risks than older breast screenings technology	Shapiro et al., 2016
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18	VS6	The information I receive about breast screenings from the special program is reliable and trustworthy	Shapiro et al., 2016
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20	VS7	Getting breast screenings is a good way to protect myself from cancer	Shapiro et al., 2016
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22	VS8	Generally, I do what my doctor or health care provider recommends about breast screenings	Shapiro et al., 2016
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24	VS9	I am concerned about serious adverse effects of breast screenings	Shapiro et al., 2016
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26	VS10	I do not need breast screenings for diagnosis that are not common anymore	Shapiro et al., 2016
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